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In re patent application of

Toshikazu KAWAI et al.

Serial Number: 09/381,372

Art Unit: 1621

Filed: September 20, 1999

Examiner: R. Keys

For: PROCESS FOR PURIFYING FLUOROMETHYL 1,1,1,3,3,3-  
HEXAFLUOROISOPROPYL ETHER

DECLARATION UNDER 37 C.F.R. 1.132

Honorable Commissioner of  
Patents and Trademarks  
Washington, D.C. 20231

Sir:

I, Toshikazu KAWAI, declare that I am a citizen of Japan  
residing at Tsurugashima City, Japan;

That I am the first named inventor of the above-identified  
application;

That the following experiments were conducted according  
to my instructions and under my supervision and that the results  
of the experiments were as stated below.

EXPERIMENT 1

Example 1 of Kawai et al. (EP 0703450 A1) was repeated  
110 times from Run 1 to Run 110, thereby producing crude  
sevofluranes (fluoromethyl 1,1,1,3,3,3-hexafluoroisopropyl  
ether) of 110 samples. Then, each crude sevoflurane immediately  
after the reaction of Example 1 of Kawai et al. was analyzed  
by gas chromatography to determine the content of the unreacted  
1,1,1,3,3,3-hexafluoroisopropyl alcohol (HFIP) present in each

crude sevoflurane. The results are shown in pages 4-6 of the present Declaration.

#### EXPERIMENT 2

The crude sevoflurane obtained in Run 1, containing 4.91 wt% of HFIP, was washed with 4% sodium hydroxide aqueous solution in accordance with Example 6 of Kawai et al. The resulting sevoflurane was found by gas chromatography to contain 0.05 wt% of HFIP.

#### EXPERIMENT 3

Example 3 of the above-identified application was repeated except in that the amount of the 0.1 wt% sodium hydroxide aqueous solution added to the mixture was changed from 71g to 60g. With this change, the equivalent ratio of sodium hydroxide to 1,1,1,3,3,3-hexafluoroisopropyl alcohol became 1.0 in the mixture. As a result of the same analysis as that of Example 3 of the above-identified application, it was confirmed that the lower layer contained HFIP in an amount smaller than a detection limit of 1 ppm. At this time, no new substance was found in a gas chromatogram obtained by the analysis.

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may

jeopardize the validity of the above-captioned application or  
any patent issuing thereon.

\_\_\_\_\_  
Date:

\_\_\_\_\_  
Toshikazu KAWAI

Run	HFIP (wt%)
1	4.91
2	4.78
3	4.73
4	4.82
5	4.66
6	4.96
7	4.66
8	4.85
9	4.75
10	4.88
11	4.88
12	4.79
13	4.79
14	4.87
15	4.72
16	4.99
17	4.82
18	4.98
19	4.89
20	4.90
21	4.57
22	5.02
23	4.66
24	4.85
25	4.78
26	5.01
27	4.79
28	4.99
29	4.74
30	4.89
31	4.74
32	4.95
33	4.62
34	4.87
35	4.75
36	4.85
37	4.31
38	4.51
39	4.32
40	4.56
41	4.23
42	4.49
43	4.27
44	4.39
45	4.24
46	4.47
47	4.61
48	4.82

49	4.62
50	4.81
51	4.61
52	4.79
53	4.62
54	4.75
55	4.74
56	4.63
57	4.60
58	4.85
59	4.67
60	4.81
61	4.56
62	4.79
63	4.62
64	5.06
65	4.55
66	4.75
67	4.54
68	4.80
69	4.61
70	4.75
71	4.68
72	4.79
73	4.70
74	4.87
75	4.69
76	4.83
77	4.83
78	4.77
79	4.63
80	4.76
81	4.72
82	4.87
83	4.69
84	5.04
85	4.64
86	4.86
87	4.61
88	4.75
89	4.62
90	4.80
91	4.62
92	4.80
93	4.70
94	4.84
95	4.58
96	5.03
97	4.63
98	4.78
99	4.58

100	4.65
101	4.53
102	4.71
103	4.50
104	4.69
105	4.64
106	4.70
107	4.49
108	4.59
109	4.55
110	4.76
111	4.55
112	4.70
113	4.63
114	4.67
115	4.71
116	4.65
117	4.70
118	4.64
109	4.57
110	4.69
average	4.71